



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,655	12/13/2004	Masakazu Sato	122035	7281
25944	7590	08/28/2006	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			BUI, BRYAN	
			ART UNIT	PAPER NUMBER
			2863	

DATE MAILED: 08/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/517,655	<b>Applicant(s)</b> SATO ET AL.	
	<b>Examiner</b> Bryan Bui	<b>Art Unit</b> 2863	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 35-166 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 35-131, 148, 149, 152, 153, 156, 157, 160, 161 and 163-165 is/are rejected.
- 7) ☒ Claim(s) 132-147, 150, 151, 154, 155, 158, 159, 162 and 166 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/13/04</u> . | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### *Claim Objections*

1. Claim 154-155 are objected to because of the following informalities: between these claims indicates "4'03". It should be removed. Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 79, 86, 93, 98, 100, 105, 107, 112, 114, 119, 121, 126, 128, 148, 149, 152, 153, 156, 157, 160, 161, 164 and 165 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 79, line 6, the phase "starting point 21" is unclear on what applicants to refer?

With respect to claim 98, lines 4-5, the claimed invention is unclear on what is different between " ' A<sub>2</sub>" and "A<sub>2</sub>". it is not refer back to the claimed invention.

With respect to claim 148, line 3, "data point A],, is unclear.

With respect to claim 149, line 6, the phase "B<sub>i</sub>" is unclear, it is not refer back to the claimed invention.

### *Claim Rejections - 35 USC § 101*

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 35-130 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of "real world" value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (*Brenner v. Manson*, 383 U.S.519, 528-36, 148 USPQ 689, 693-96); *In re Ziegler*, 992, F.2d 1197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993).

A process that consists solely of the manipulation of an abstract idea is not concrete or tangible. See *In re Warmerdam*, 33 F.3d 1354, 1360, 31 USPQ2d 1754, 1759 (Fed. Cir. 1994). See also *Schrader*, 22 F.3d at 295, 30 USPQ2d at 1459. Nor can one patent "a novel and useful mathematical formula," *Flook*, 437 U.S. at 585, 198 USPQ at 195; *electromagnetism or steam power*, *O'Reilly v. Morse*, 56 U.S. (15 How.) 62, 113-114 (1853).

The claimed invention does not produce a tangible result. **It is unclear how the result is being stored, displayed and is conveyed to a user.**

In order to overcome the 101 Rejection, the claim invention should be providing a storing, displaying/outputting and the result is used in a tangible manner. The applicant should review the disclosure to determine what type of tangible result is being

carried out in this instant application and such limitation to be included in the claim.

**Please view the new guidelines for 35 U.S.C. 101 in web site of OG notice.**

<http://www.uspto.gov/web/offices/com/sol/og/2005/week47/patgupa.htm>

Applicant is reminded that during patent examination, the pending claims must be "given the broadest reasonable interpretation consistent with the specification."

Applicant always has the opportunity to amend the claims during prosecution, and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969).

While the meaning of claims of issued patents are interpreted in light of the specification, prosecution history, prior art and other claims, this is not the mode of claim interpretation to be applied during examination. During examination, the claims must be interpreted as broadly as their terms reasonable allowed. This means that the words of the claim must be given their plain meaning. In re Zletz, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989). Further, the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See In re Van Geuns, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2863

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 35-40, 103, 110, 131, and 163 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noriaki et al (JP 11-287630).

With respect to claims 35 and 131, Noriaki et al teach surface from measuring device and surface from measuring method of semiconductor substrate for evaluate the shape (displacement) of the semiconductor (abstract) comprising shape measuring means (figure 1, displacement measuring device, item 3, with laser oscillator/CCD camera) for measuring shape data by scanning a front or back of the semiconductor; a memorizing means for storing the measured shape data (figure 1, item 62); a differential processing means for differentiating the stored shape data and calculating a differential profile (paragraph 0022-0025); a surface characteristic calculating means for obtain a surface characteristic of the wafer (paragraph 0024-0025, and 0028). It is noted that analyzing the calculated differential profile is commonly known when the surface type like evaluation using the smoothness actually computed with the surface type like metering device that show the surface type like profile value of silicon wafer in figure 3, pars 0024-0025. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to realize the analyzing technique is such a way for indicating calculated surface type profile with the differential value as taught by Noriaki et al (figure 3) to provide the profile condition of the surface of the semiconductor.

With respect to claims 36-40, Noriaki et al teach wherein the surface characteristic of the semiconductor is obtained at least in the peripheral portion of the

Art Unit: 2863

semiconductor (pars 0024-0025); wherein the surface characteristic of the semiconductor are measured by scanning the front surface and /or back surface of the semiconductor wafer at an interval of 1mm or less (it is noted that the interval is a measurement performance when applied scanning by CCD as taught by Nokiari et al by 2mm is a proper range in par 0012. Therefore, a measurement performance is obviousness to one of ordinary skill in the art to set as 1mm or less for scanning as desired); wherein the shape data of the semiconductor wafer are displacement data of a plane of the semiconductor wafer and/or thickness data of the semiconductor wafer (par 0023).

With respect to claim 103,110 and 163, Noriaki et al teach wherein a threshold is set to the differential profile, and locally abnormal value of the shape wafer is detected, and set at +/- 0.01  $\mu\text{m}/\text{mm}$  (variation setting by magnitude of semiconductor substrate, par 0023).

***Allowable Subject Matter***

7. Claims 41-102, 104-130, 132-162, and 164-166 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and overcome the 112, 2<sup>nd</sup> paragraph and 101 rejections as set forth in this office action.

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan Bui whose telephone number is 571-272-2271. The examiner can normally be reached on M-Th from 7am-4pm, and Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Barlow can be reached on 571-272-2269. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BB

8/21/2006

BRYAN BUI  
PRIMARY EXAMINER

